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Notice of Allowability	Application No.	Applicant(s)	
	09/765,226	LIU ET AL.	
	Examiner	Art Unit	
	Tuan N. Nguyen	2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/23/2005.
2. ☒ The allowed claim(s) is/are 3,4,6,7 and 9-11.
3. ☒ The drawings filed on 26 February 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>4/1/05</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below, to the amended claims 3, and 4. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Christa Hildebrand (Attorney for Applicant, Reg. No. 34,953) on 04/01/2005.

In the claims:

Claim 3 (currently amended): A method for producing laser radiation comprising the steps of:

(a) determining a preferred beam path direction of a frequency conversion crystal by arranging the crystal in two possible directions for frequency conversion, the two possible directions being related by 180 degrees, the crystal being inside a build up ring cavity allowing for a build up cavity to enhance the power of a laser beam including a prism and mirror arrangement to circulate laser light and an nonlinear frequency conversion crystal to convert the circulating fundamental power into another frequency;

(b) indicating the orientation of the nonlinear crystal by providing a wedge on one edge of the crystal, imaging the entrance beam into the ring cavity and circulating the beam inside the cavity;

~~(b)~~ (c) amplifying radiation of an optical pumping source by using an optical cavity having at least one frequency conversion crystal disposed such that the crystal is passed by the radiation only in the predetermined beam path direction.

Claim 4 (currently amended): A frequency-converted laser apparatus comprising
an optical pumping source for producing optical pumping radiation;
a unidirectional ring cavity comprising a frequency conversion crystal, a prism
and mirror arrangement, wherein the frequency conversion crystal is positioned in a
predetermined direction such that the radiation produced by the optical pumping source enters in
a direction such that the crystal is passed by radiation only in one selected beam path direction,
wherein the predetermination of direction of the frequency conversion crystal is
accomplished by indicating the orientation of the crystal by providing a wedge on one edge of the
crystal.

REASON FOR ALLOWANCE

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance - Applicant's response filed on 03/23/2005 has been considered, with respect to claims 3, 4 the references of the record fail to teach or suggest the apparatus and method thereof:

Claims 3, 4:

A frequency converted laser comprising an optical pump, a unidirectional ring cavity with a frequency conversion crystal, a mirror arrangement, *where the frequency conversion crystal passed only in a predetermined beam path accomplished by indicating the orientation of the crystal by providing a wedge on one edge of the crystal.*

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen


